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## WATER SUPPLY OUTLOOK

and

FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS

#### for

## MONTANA & NORTHERN WYOMING

UNITED STATES DEPARTMENT of AGRICULTURE...SOIL CONSERVATION SERVICE, and

MONTANA AGRICULTURAL EXPERIMENT STATION

Data included in this report were obtained by the agencies named above in cooperation with the Bureau of Reclamation, U.S. Forest Service, U.S. Geological Survey, National Park Service, State Engineers of Montana and Wyoming and other Federal, State, and private organizations.

APR. 1, 1962

#### UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Cooperative Snow Survey and Water Supply Forecast Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Fortunately, most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from fore-knowledge of the runoff.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, about 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

By relating snow survey measurements taken over a period of years to spring-summer runoff during the same period, relationships have been developed which make it possible to forecast seasonal runoff several months in advance of occurrence. In order to make a forecast, once a forecast relationship has been developed, the maximum snow water content at previously selected key snow courses is usually entered in the forecast relationship. More accurate forecasts are often obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast relationships.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions.

	PUBLISHED BY SOIL	CONSERVATION SERVICE	
REPORTS	ISSUED	LOCATION	COOPERATING WITH
RIVER BASINS			
COLORADO ANO STATE OF UTAH	_(anutnat) Yuhtnom _	SALT LAKE CITY, UTAH	UTAH STATE ENGINEER AND OTHER. AGENCIES
COLUMBIA	MONTHLY (JANMAY)	BOISE, IOAHO	- IOAHO STATE RECLAMATION ENGINEER
UPPER MISSOURI AND STATE	_ MONTHLY (FEBJUNE)_	BOZEMAN, MONTANA	MONT. AGR. EXP. STATION
WEST-WIOE	OCT. 1. APR. 1. MAY 1.	PORTLANO, OREGON	ALL COOPERATORS
STATES			
ALASKA	MONTHLY (MARMAY)	PALMER, ALASKA	ALASKA S.C.D.
AR I ZONA	SEMI-MONTHLY (JAN.15 - APR.1)		SALT R. VALLEY WATER USERS ASSOC ARIZ, AGR. EXP. STATION
COLORAGO ANO NEW MEXICO	MONTHLY (FEBMAY)	FORT COLLINS, COLORACO.	COLO. AGR. EXP. STATION COLO. STATE ENGINEER N. MEX. STATE ENGINEER
IOAHO	MONTHLY (FEBMAY)	BOISE, IOAHO	- IOAHO STATE RECLAMATION ENGINEER
NE V A O A	_ MONTHLY (JANMAY)	RENO. NEVAGA	NEVAGA DEPT. OF CONSERVATION AND NATURAL RESOURCES - DIVISION OF WATER RESOURCES
ORE GON -	_ MONTHLY (JANJUNE)_	PORTLANO, OREGON	ORE. AGR. EXP. STATION OREGON STATE ENGINEER
WASHINGTON	_ MONTHLY (FEB JUNE)_	SPOKANE, WASHINGTON	WN. STATE DEPT. OF CONSERVATION
WYOMING	_ MONTHLY (FEBJUNE)	_ CASPER. WYOMING	- WYOMING STATE ENGINEER
Copies of these	various reports may be	secured from:  Head, Water Supply F  Soil Conservation Se P.O. Box 4170, Portl	rvice
	PUBLISHED B	Y OTHER AGENCIES	
REPORTS	ISSUED		AGENCY
BRITISH COLUMBIA	_ MONTHLY (FE8JUNE)		R RIGHTS BR., DEPT. OF LANOS AND IT BLOG., VICTORIA, B.C., CANAGA
CALLEGRALIA	MONTHLY (EER MAY)	CALLE DERT OF WA	TER RESOURCES SACRAMENTO CALLE

#### FEDERAL-STATE-PRIVATE COOPERATIVE

#### SNOW SURVEYS AND WATER SUPPLY FORECASTS

for

MONTANA AND NORTHERN WYOMING (Upper Missouri and Upper Columbia River Basins)

Report Prepared
By

A. R. Codd as Snow Survey Supervisor

and

P. E. Farnes
Ass't. Snow Survey Supervisor

Soil Conservation Service Snow Survey Section Box 855, Bozeman, Montana

Issued By

H. D. Hurd
State Conservationist
Soil Conservation Service
Bozeman, Montana

R. E. Huffman
Director
Montana Agricultural
Experiment Station
Bozeman, Montana



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# MONTANA WATER SUPPLY OUTLOOK as of April 1, 1962

Snow survey measurements made near the first of April indicate the water stored in the mountain snowpack is very near average. Exceptions are the Kootenai, Sun, Marias, and Teton drainages, where measurements are about 10 percent below average.

Streamflow forecasts for the coming irrigation season are generally near to slightly above the 1943-57 average. West of the Divide, streamflow is expected to be considerably more than last year on the Bitterroot and Upper Clark Fork drainages. The Flathead and Lower Clark Fork drainages are expected to flow slightly more than last year. The Kootenai River is forecast to produce less water than last year.

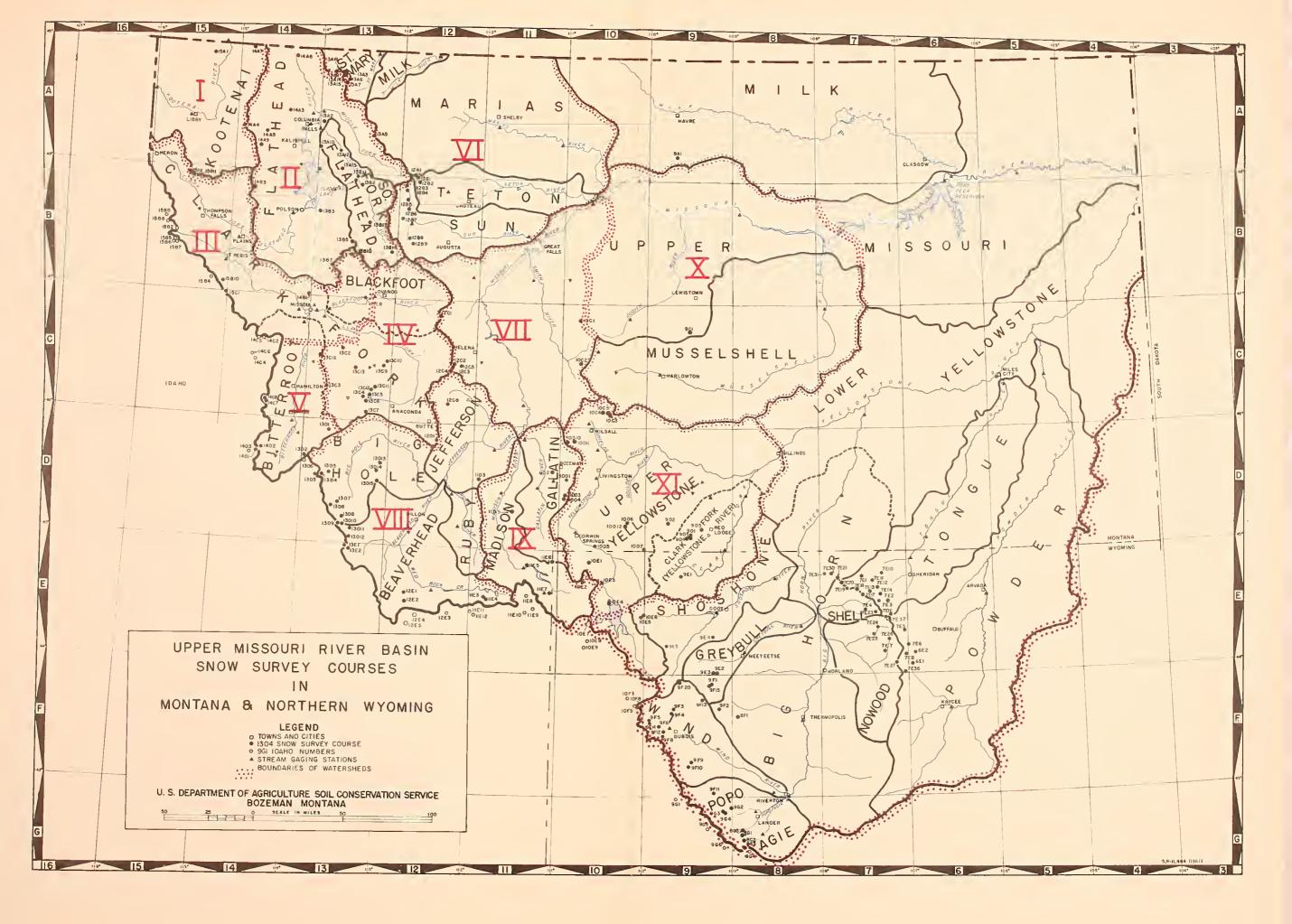
East of the Divide, streamflow is forecast to be 90 to 125 percent of average. Below average flows are expected in the Jefferson, Marias, and Sun River areas. Above average flows are forecast for the Gallatin and Yellowstone River drainages.

Storage in irrigation reservoirs is generally below average. With near average streamflow forecasts, most reservoirs should fill during spring runoff.

Mountain soil moisture is generally good. Very little priming from the snowpack will be necessary before runoff.







#### INDEX TO MONTANA & NORTHERN WYOMING SNOW COURSES

Drainaga Basin & Course Name	Munber	<u>Elev</u> .	Location Sec. Lat.	Twp.	Range Long.	Racord Bogan	Messuring Dates	Heas. By	Dreinage Besin & Course Name	Number	Elev.	Location Sec. Lat. MISSOURI RIVE	Tvp. R BASIN	Ranga Long.	Record Began	Meacuring Dates	Meas. <u>By</u>	Dreinage Basin & Course Name	Number	<u>Elav</u> .	Location Sec. Lat.		Range Long.	Record Bagan	descuring Dates	Мевз. Ву
KOOTENAL RIVER									BEAVERHEAD RIVER									WIND RIVER			(MINOLIN)	c)				
Barea Creak Brusb Creek Red Mountain Wessel Divide	15Bil 14A4 15Al 14A7	5500 5000 6000 5450	6 13 4 8	25N 30N 36N 37N	30W 26W 29W 24W	1937 1937 1937 1937	$ 4,5,5\frac{1}{2} 3,4,5 3,4,5,5\frac{1}{2} 3,4,5,5\frac{1}{2} $	2 1 1	Bloody Dick Gold Stone Lakeview Conyon Lakeview Ridge Lemhi Pass	13D10 1309 11E4 11E3 13E1 12E2	7600 8100 6930 7400 7480 6950	12 11 26 27	85 85 145 145 105 155	16W 16W 2W 2W 2W 15W	1948 1948 1948 1948 1948 1948	3,4 3,4 3,4,5 3,4,5 3,4	1 10 10 1	Big Warm Burroughs Creek Dinwoodle Dinwoodle Gleciera Dry Creek	9F12 9F4 9F10 9F17 9F9	8800 8800 10000 10500 9500	36 15 9 3 34 27	42N 43N 38N 38N 4N 42N	109W 107W 105W 106W 105W 108W	1955 1948 1948 1959 1948 1940	2,3,4,5 2,3,4,5 2,3,4,5 2,3,4	1 1,5 1 1,5
FLATHEAD RIVER  Besin Creek  Bassoo Paak  Big Creek  Desart Hountein  Griffin Creek Divido	13814A 1483 1383 1382H 1489	5000 5150 6750 5600 5150	11 11 7 24 11	19N 24N 22N 31N 28N	12W 25W 18W 19W 25W	1951 1960 1941 1937 1960	2,3,4,5 3,4,5 3,4,5, 6 1,2,3,4,5 3,4,5	1 1,5 1,5 1,2 1,5	Limekith Solway Junction Terrell Creek Trail Creek White Fine Ridge BIG HOLE RIVER	13D11 13D12 13E2 12E1	6800 6650 7090 8850	27 14 15 18	8s 9s	15W 15W 15W 9W	1948 1948 1948 1948	3,4 3,4 3,4 3,4 3,4	1 1 1 1	DuNoir Geyser Creek Little Werm Sheridan R.S. #2 T-Cross Rancb Togwotee Pass	9F6 9F7 9F8 9F14 9F3 10F9	8750 8500 9500 7500 8000 9600	12 24 3 1 29	41N 41N 42N 43N 44N	108W 108W 109W 107W 110W	1948 1948 1955 1940 1936	2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Nail Roaring Divide Holbrook Kisbanehn Logan Creek Marian Pass Minaral Creek North Fork Jocko Quintookon Spotted Baar Ht. Stravberry Lake Trinkus Lake Trout Lake	14A3 13B13A 14A6 14A5 13A5H 13A16 13B7 13A13 13B2 13A10 13B1 13B1	5770 4530 3886 4300 5250 4000 6330 3800 7000 6500 6500 3600	35 18 14 34 34 29 3 11 23 11 9 21	32N 21N 37N 30N 30N 36N 17N 26N 25N 28N 28N	22W 13W 22W 24H 14W 17W 17W 15W 19W 17W	1942 1951 1954 1937 1934 1939 1941 1951 1948 1948 1948	3,4,5 2,3,4,5 3,4,5 3,4,5 1,2,3,4,5 3,4,5,6 1,2,3,4,5 3,4,5 3,4,5 1,2,3,4,5	1 1 6 1 3 6 1,5 1,2 1,2 2 2	Anderson Meadov Below Big Hole Pass Big Hole Pass East Boundary Elk Horn Springs Jehnke Creek Miner Forks Miner Lake Wise River	13D14 13D4 13D3 13D5 13D15 13D8 13D6 13D7 13O13	7000 6900 7240 6700 8450 7340 7300 6720 6300	18 24 28 22 15 25 24 10	3S 3S 3S 4S 7S 6S	12W 18W 18W 17W 12W 16W 17W 16W 12W	1948 1948 1948 1948 1948 1935 1948 1948 1945	3,4 3,4 3,4 3,4 3,4,5 3,4 3,4 3,4 3,4	1 1 1 3 1 1 1	Blue Ridge Bruca's Camp Nobb's Park Mosquito Park Samaili Glade South Pess St. Lawrence R.S. Trout Creek Twenty Lakes	8G2 8G5 9G3 9G4 8G1 8G3 9F11 9G2 9G7	9500 6500 10000 9500 8500 9000 9000 8400 10500	23 24 22 23 3 13 26 5	31N 32N 2S 2S 31N 30N 1N 2S 1S	101W 101W 3W 3W 101W 101W 4W 2W	1939 1955 1948 1940 1939 1939 1940 1948 1959	2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5	1 1,5 1,5 1 1,5 1,5 1,5
Twin Creeks Upper Holland Lake CLARK FORK RIVER	13B11 13B5	3580 7000	14 28	20N 20N	16W 16W	1951 1948	3,4,5 3,4,5	1,2	JEFFERSON RIVER Picnic Crounds Pipestone Pess	1206 1201	6500 7200	10 10	5 N 1 N	6N 7W	1941 1938	2,3,4 1,2,3,4,5	4 1	BIG HORN RIVER  Five-Springs Falls  Kirwin  Medicine Wheel	7E31 9F19 7E30	7500 11000 9000	19 13 24	56n 45n 56n	92W 104W 92W	1956 1960 1956	2,3,4,5 2,3,4 2,3,4,5	1 1 1
Black Pine Coyota Niii El Dorado Mina Frad Burr Faas Fraezaout Pass Gold Crook Laks	13C13 13B10 13C9 13C11 15B10 13C10	7100 4200 7800 8000 6800 7200	23 12 23 12 21 14	8N 18N 8N 6N 15N 8N	15W 16W 12W 13W 27W 12W	1959 1947 1949 1957 1937 1949	3,4 1,2,3,4,5 3,4 3,4 4,5 3,4	1 1,2 1 1 1,2	MADISON RIVER  Hebgen Dam Jack Creek Norris Basin North Meadow West Yellowstone	11E5 11D5 10E2 11D3 11E7	6550 7600 7500 7500 6700	22 13 44°44• 23	11S 6S 3S 13S	3E 1E 1100421 3W	1934 1961 1936 1961 1934	1,2,3,4,5 3,4 1,2,3,4,5 3,4 1,2,3,4,5	3 1 6 1	Owl Creek Wood River #2 Timber Creek #2 Frontier Needle SHOSHONE RIVER	8F1 9F15 9E3 9F20	8700 8000 8800 10000	36 28 25 20	43N 46N 47N 46H	101W 103W 103W 106W	1948 1956 1955 1961	2,3,4,5 2,3,4,5 2,3,4,5 2,3,4	1 1 1 1
Noodoo Cresk Intergeard Lubrecht Forest #G Red Lion Skalkabo Summit Slide Rock Mt. Sautbarn Cross	1501 1304 1308 13012 1303 1302 1305	6200 6450 4040 7000 7259 7100 6500	9 6 11 27 30 35 8	14N 5H 13N 6N 6N 10N	27W 13W 14W 13W 17W 16W 13W	1937 1936 1951 1958 1937 1937 1936	4,5 2,3,4 1,2,3,4,5 3,4 3,4 2,3,4	1,2 4 8 1 1	GALLATIN RIVER  Devil's Slide Nood Meedow New World Twenty-One Mile	10D4 10D3 10D1 11E6	8100 6600 6700 7150	14 22 24 1	5S 4S 3S 11S	6E 6E 6E 5E	1935 1935 1939 1934	2,3,4,5 2,3,4,5 2,3,4 1,2,3,4,5	1 1 1 3	Cartor Mt. East Entrance Ishawoo Cone Sylvan Peas Younts Peak	9E4 10E6 9E5 10E5 9F18	7800 7000 9200 7100 8500	15 17 12 12 28	50N 52N 49N 52N 46N	103W 109W 108W 110W 108W	1957 1948 1960 1936 1960	1,2,3,4 1,2,3,4,5 2,3,4 1,2,3,4,5 2,3,4	16161
Storm Lake Stuart Mill r.v. Mountain BITTERROOT RIVER Ambrose	1307 1306 1481	7780 6500 6800	19 19 33	4N 5N 15N	13W 13W 19W	1939 1936 1956	1,2,3,4,5 2,3,4 1,2,3,4,5	1 4 1	MISSOURI RIVER MAIN STE Chessman Reservoir Crystal Lake Grasahopper	1205 901 1002	6200 6100 7000 7950	2 19 19	9N	5W 18E 8E	1936 1941 1938	1,2,3,4,5 3,4 3,4	3 1 1	Cold Springs Camp Medicine Lodge Lakes Onion Gulch Tensleep Lake Tyrell R.S.	7E25 7E24 7E27 7E26 7E35	8700 9500 8100 9075 8300	1 7 31 33 30	50N 51N 48N 50N 49N	86W 87W 85W 86W 86W	1956 1956 1956 1956 1956	2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5	1 1 1 1
East Fork R.S. Globons Pess Lolo Pass Lot Norse Naz Perce Cemp Nez Perce Pass Tuin Lakes	13D1 13D2 14C5 14C7 14D2 14D1 14C8	5400 7100 5230 5940 5580 6575 6510	16 4 11 5 19 25 32	2N 2S 10N 4N 1S 1S	17W 19W 24W 23W 23W 24W 24W	1937 1934 1937 1960 1937 1937	3,4,5 3,4,5 3,4,5 3,4,5 3,4,5 3,4,5 3,4,5	1,31,21	Kings Mill Rocky Boy Stemple Pass Ten Mile Creek L. Ten Mile Creek M. Tan Mile Creek, U.	1001 9A1 1201 1202 1303 1204	5200 6900 6250 6800 8000	35 15 16 13 13	13N 28N 13N 8N 8N 8N	7E 16E 7W 6W 6W 5W	1934 1941 1934 1935 1934 1935	3,4,5 3,4,5 1,2,3,4,5 1,2,3,4,5 1,2,3,4,5	3 3 3 3 3	SHELL CREEK  Beld Mountein Granite Pass Ranger Creek Shell Creek	7E21 7E17 7E4 7E23	9600 8950 8800 9600	33 19 32 12	56N 54N 53N 52N	91W 88W 88W 88W	1956 1956 1935 1956	2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5	1 1 1
em varv			askatchevan	RIVER BASII			2/4/2		SUN-TETON-MARIAS RIVER: Benchmark Cabin Creek Five-Bull Freight Creek	12B6 12B6 12B9 12A1	5500 5400 5600 6000	9 33 36 13	20N 23N 20N 26N	10W 10W 10W 10W	1948 1949 1948 1948	3,4 3,4 3,4 3,4	1 1 1	TONGUE RIVER  Beaver Tongue Div.  Big Goose #2	7E20 7E32	9200 7700	12 4 32	55N 53N 55N	91W 86W 89W	1956 1955 1956	2,3,4,5 2,3,4,5 2,3,4,5	1 1
ST. MARY  Icaberg Lake #3 Josephine Lover #9 Hount Allen #7 Piegen Pass #6 Ptermigen #8	13A3 13A14 13A7 13A6 13A8	5600 4900 5700 5500 5800	34 10 22 15 32	36N 35N 35N 35N 36N	16M 16M 16M 16M	1922 1955 1922 1922 1937	5 5 5 5	3,9 3,9 3,9 3,9	Gotes Park Goat Mountain Weldron Creek West Fork Wrong Creek Wrong Ridge MILK RIVER (Canada)	12B5 12B7 12B2 12B1 12B4 12B3	5300 7000 5600 6000 5700 6800	31 20 16 6 32 17	24N 22N 25N 25N 25N 25N	10W 10W 9W 9W 10W 10W	1949 1934 1948 1948 1949 1949	3,4 3,4 3,4 3,4 3,4 3,4	1 1 1 1 1 1	Bone Springs Div. Burgess R.S. #2 Dome Lake #2 Gloom Creek Sibley Lake Sucker Creek Steamboat Point Wood Rock G.S.	7E18 7E33 7E34 7E14 7E11 7E12 7E10 7E13	9200 7900 8800 9300 8000 9000 7500 8500	36 11 32 10 19 32 3	56N 53N 55N 55N 55N 56N 56N 56N	89W 87W 87W 88W 87W 87W 88W	1955 1950 1956 1956 1956 1956 1956	2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
									Cress Day Cypress Park Elkwater Val Marie	10AA2 9AA1 10AA1 7AA1	3450 4000 4100 2700	49°-19° 49°-40° 49°-40° 40°-19°	109 <sup>6</sup> 110 <sup>6</sup>	2-14*-15" 2-31*-00" 2-15*-16" 2-43*-44"	1953 1953	4 4 4	9 9 9 9	Geneva Pass  POWDER RIVER  Bear Trap	7E37 7F1	10600	10	45N	86W	1961	2,3,4,5	1
									IPPER YELLOWSTONE RIVER Beld Ridge Camp Senia Conyon Cooke City Crevice Mt. Gertrude Lake Grizzly Peak Independence	1005 9D1 10E3 10D7 10D5 9D3 905 10D6	7500 7890 7750 7400 8400 9250 8400 8000	11 2 44°-441 25 22 10 26 22	98 98 88 78 78	10E 18E 00-30' 14E 9E 18E 19E 12E	1961 1937 1938 1937 1935 1961 1961 1940	3,4,5 3,4,5 1,2,3,4,5 1,2,3,4,5 3,4,5 3,4,5 3,4,5 3,4,5	1 6 6 2 1 1	Canyon Creek Clouds Peak Muddy Creek G.S. Munkres Pass Soldior Park Sour Dough Tensleep R.S.	7F2 7E36 6E2 7E8 7E5 7E6 7E7	7400 10000 7800 9700 3700 8500 8300	16 15 2 11 36 17 30	43N 51N 48N 48N 51N 49N 49N	86W 85W 84W 85W 85W 84W 84W	1960 1960 1956 1950 1950 1936 1956	2,3,4,5 2,3,4 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5 2,3,4,5	1 1 1 1 1 1 1 1 1
UTBASCS LINCOLA ALPP 1991									Lake Camp Lodgspole Lupino Monument Peak Foroupine R.S. Timberline Creak Sacejewes West Rosebud	10E4 9E1 10E1 10D12 10C3 9D4 10D10 9D2	7850 8200 7300 9000 6500 8850 6550 7500	44°-34' 32 44°-54' 22 10 10 36 10	56N 56N 110 7S 4N	106W 00-37'	1936 1940 1938 1961 1938 1961 1960 1960	1,2,3,4,5 2,3,4,5 1,2,3,4,5 3,4,5 3,4,5 3,4,5 3,4,5 3,4,5 1,2,3,4,5	6 1,2 6 1 1 1 1 1 4	o. Numerals 1,2,3,4 b. Numerals refer to 1. Soil Conserve 2. U. S. Forest 3. U. S. Geologi 4. Montona Fower 5. U. S. Indian 6. National Park	Agency th tion Servi Service cal Survey Company Service	at secures ce		urvey as fo		xperiment S tete Forest Water & Pow b end Wildl	ry School er Bureau lfe Service	

M - Soll Moisture A - Aerial Marker

<sup>5,</sup>R-11,464 - (1961)



SOIL MOISTURE as of April 1, 1962

Drainage Basin and Station	Station No.	Elev.	Soil Pr in In Depth	rofile nches Cap.	Date			re Con bout 4 1960	
GALLATIN College Site	11D2M	4856	54	14.5	3/30	11.5	10.9	12.6	10.4
MADISON Red Bluff	11D4M	4900	40	4.7	3/24	2.5	1.5	-	-
SHIELDS Battle Ridge Shields River	10D11M 10C4M	6020 5850	48 48	15.4 20.8	3/30 3/30	14.8 12.5	12.6 13.3	-	-
FLATHEAD Desert Mountain Marias Pass Spotted Bear R.S. Trout Lake	13A2M 13A5M 13B15M 13A12M	5600 5250 3700 3600	54 54 28 54	8.4 6.5 6.2 12.7	3/26 3/25 3/28 3/30	8.0E 5.5 6.3 12.8	7.2 5.4 6.3 12.5	8.6 5.7 6.5 12.5	7.5 5.4 6.4 12.4

#### SOIL MOISTURE as of October 1, 1961

						<u>1961</u>	1960	1959	Avg.
GALLATIN College Site	11D2M	4856	54	14.5	9/29	9.1	5.8	8.6	5.8
MADISON Red Bluff	11D4M	4900	40	4.7	9/22	3.2	-	-	-
<u>SHIELDS</u> Battle Ridge Shields River	10D11M 10C4M	6020 5850	48 48	15.4 20.8	9/30 9/30	9.3 8.7	10.6	-	-
FLATHEAD Desert Mountain Marias Pass Spotted Bear R.S. Trout Lake	13A2M 13A5M 13B15M 13A12M	5600 5250 3700 3600	54 54 28 54	8.4 6.5 6.2 12.7	10/5 9/26 10/5 10/5	4.9 3.6 4.4 7.8	4.5 2.8 0.9 6.9	7.2 4.9 5.2 9.8	5.8 3.8 3.1 7.7



**AS OF** APRIL 1, 1962

(1000 Acre Feet)

		FORECAST	FORECAST	PERCENT	MEASURE	D FLOW
NO.	RIVER AND FORECAST POINT	PERIOD	THIS YEAR	AVERAGE	LAST YEAR*	AVERAGE
	COLUM	BIA RIVER BA	ASIN			
0000	KOOTENAI RIVER				mmet.	
3030	Libby (at)	Apr-Sept	7200	93	8764	7723
2050	T = 8 ( +)	Apr-July	6240	93	7759	6694
3050	Leonia (at)	Apr-Sept	8280	93	10002	8907
	NORTH FORK FLATHEAD RIVER	Apr-July	7300	93	8997	7817
3555	Columbia Falls (near)	Ann Cont	1891	97	2044	1942
	Columbia rails (near)	Apr-Sept	1710	97 97	1905	1769
		Apr-July	1426	96	1720	1491
	MIDDLE FORK FLATHEAD RIVER	Apr-June	1420	90	1720	1471
3585	West Glacier (near)	Apr-Sept	1990	106	1852	1882
3,00	word diddigit (modi)	Apr-July	1842	106	1748	1747
		Apr-June	1571	106	1578	1487
	SOUTH FORK FLATHEAD RIVER	npi ouic	<b>1</b> ) (1	100	1770	1407
3625	Columbia Falls (at)(17)	Apr-Sept	2520	110	2265	2297
		Apr-July	2405	110	2175	2180
		Apr-June	2084	110	2036	1901
	FLATHEAD RIVER	1	•			_,
3630	Columbia Falls (at)(17)	Apr-Sept	6569	104	6218	6299
		Apr-July	6066	104	5879	5846
		Apr-June	5192	104	5369	4993
3720	Polson (near) (18)	Apr-Sept	7898	105	7456	7463
		Apr-July	7282	105	7044	6939
	SWAN RIVER					
3700	Big Fork (near)	Apr-Sept	728	113	707	641
		Apr-July	644	113	633	568
	B	Apr-June	517	112	551	460
2400	BLACKFOOT RIVER					
3400	Bonner (near)	Apr-Sept	1055	106	775	1000
		Apr-July	962	106	705	907
	ELLM CDEEK	Apr-June	822	106	636	775
3295	FLINT CREEK Maxville (at)	A Co	177.0	7.07	20.0	16
2275	MaxVIIIe (ac)	Apr-Sept	47.0	101	30.2	46.4
	BOULDER CREEK	Apr-July	35.3	100	21.4	35.4
3300	Maxville (at)	Apr-Sept	26.5	94	15.2	28.2
<i>J</i>	MANATTE (40)	Apr-July	24.4	94 95	14.0	25.8
	MIDDLE FORK ROCK CREEK	Apr -oury	~404	フノ	14.0	٥, ر
3320	Philipsburg (near)	Apr-Sept	78.3	98	57.6	80.2
		Apr-July	70.7	98	52.8	72.1
		- Pr O CTJ	1001	,0	J~ • U	1~ ° 1

<sup>(17)</sup> Corrected for storage in Hungry Horse Reservoir.

<sup>(18)</sup> Corrected for storage in Hungry Horse Reservoir and Flathead Lake.

<sup>- 4 -</sup>



				(1000 Acre Feet)			
	(	FORECAST	FORECAST	PERCENT	MEASURE	D FLOW	
NO.	RIVER AND FORECAST POINT	PERIOD	THIS YEAR	AVERAGE	LAST YEAR*	AVERAGE	
	CLARK FORK RIVER						
3404	Milltown (above) (14)	Apr-Sept	796	98	478	815	
		Apr-July	702	98	404	716	
		Apr-June	596	98	356	609	
3405	Missoula (above)	Apr-Sept	1851	102	1251	1814	
		Apr-July	1664	102	1110	1620	
		Apr-June	1418	102	992	1384	
3530	Missoula (below)	Apr-Sept	3437	102	2360	3361	
	· · · · · ·	Apr-July	3143	103	2142 .	3059	
		Apr-June	2693	103	1970	2608	
3545	St. Regis (at)	Apr-Sept	4700	103	3454	4549	
		Apr-July	4280	103	3148	4140	
		Apr-June	3652	103	2873	3550	
3890	Plains (near) (18)	Apr-Sept	12930	104	11362	12337	
		Apr-July	11760	104	10600	11316	
		Apr-June	10080	104	9677	9625	
3920	Whitehorse Rapids (at) (18)	Apr-Sept	14502	104		13932	
	•	Apr-July	13321	104		12763	
		Apr-June	11272	104		10816	
	WEST FORK BITTERROOT RIVER	•					
3425	Conner (near) (15)	Apr-Sept	177	100	-	176	
		Apr-July	163	100		164	
	BITTERROOT RIVER	-				·	
3440	Darby (near)	Apr-Sept	583	100	402	587	
		Apr-July	544	100	366	547	
		Apr-June	478	100	339	477	
3528	Missoula (near) (16)	Apr-Sept	1586	102	1109	1557	
		Apr-July	1479	102	1032	1450	
		Apr-June	1275	102	978	1244	
	BLODGETT CREEK	•					
3475	Corvallis (near)	Apr-Sept	46.6	100	38.5	46.7	
		Apr-July	44.5	100	37.1	44.4	
	BURNT FORK CREEK	1				• • • •	
3510	Stevensville (near)	Apr-Sept	29.8	95	20.9	31.2	
	,	Apr-July	26.5	95	18.7	28.0	
		-	•			•	

<sup>(14)</sup> Difference in observed flow, Clark Fork above Missoula and Blackfoot at Bonner. (15) Corrected for storage in West Fork Bitterroot River Reservoir.

<sup>(16)</sup> Difference in observed flow, Clark Fork above and below Missoula.

<sup>(18)</sup> Corrected for storage in Hungry Horse Reservoir and Flathead Lake.



AS OF APRIL 1, 1962

(1000 Acre Feet)

		FORECAST	FORECAST	PERCENT	MEASURE	FLOW
NO.	RIVER AND FORECAST POINT	PERIOD	THIS YEAR	AVERAGE	LAST YEAR*	AVERAGE
	MIS	SOURI RIVER	BASIN			
	C-1					
	RED ROCK RIVER					
0110	Kennedy Ranch (at)	May-Sept	58.2	106	20.4	54.9
		May-July	52.2	106	17.0	49.1
0125	Monida (near) (1)	Apr-Sept	91.1	105	35.4	86.4
		Apr-July	86.5	105	28.2	82.2
	BIG HOLE RIVER					
0255	Melrose (near)	Apr-Sept	689	90	397	770
		Apr-July	638	90	367	714
0000	BOULDER RIVER					
0330	Boulder (near)	Apr-Sept	79.6	100	46.0	79.9
	TREEDROOM P.TICP	Apr-July	76.1	99	43.9	76.5
0345	JEFFERSON RIVER		0.40			
0343	Sappington (at)	Apr-Sept	983	91	472	1074
	MADISON RIVER	Apr-July	872	91	421	958
0375	West Yellowstone (near)	A	222	3.00	2/0	07/
0)1)	west lellowstone (near)	Apr-Sept	233	108	168	216
0385	Grayling (near) (2)	Apr-July	177 487	107	123	165
0,00,	draying (near) (2)	Apr-Sept	•	109	329	448
0410	McAllister (near) (3)	Apr-July Apr-Sept	397 807	111 105	241	357
0420	monification (mean) (5)	Apr-July	668	108	513 383	756
	GALLATIN RIVER	Apr -sury	008	100	202	613
0435	Gateway (near)	Apr-Sept	552	120	331	459
122	111111111111111111111111111111111111111	Apr-July	490	120	267	395
	EAST GALLATIN RIVER	npr ours	470	1~0	207	272
0480	Bozeman (at)	Apr-Sept	53.2	115	20.9	46.4
		Apr-July	46.7	115	16.7	40.7
	HYALITE CREEK		4001		10.1	4001
0500	Hyalite R.S. (at) (4)	Apr-Sept	41.1	114	24.2	36.1
		Apr-July	35.3	114	20.6	31.0
	GALLATIN RIVER					71,0
0525	Logan (at)	Apr-Sept	624	127	230	492
		Apr-July	537	127	164	422
					•	•

Corrected for storage in Lima Reservoir.
 Corrected for storage in Hebgen Lake.
 Corrected for storage in Hebgen and Ennis Lakes.
 Corrected for storage in Middle Creek Reservoir.

<sup>- 6 -</sup>

PROVISIONAL DATA FURNISHED BY U.S. GEOLOGICAL SURVEY



AS OF APRIL 1, 1962

	7.0 0.121			(1000	Acre Feet)	
	(	FORECAST	FORECAST	PERCENT	MEASURE	D FLOW
NO.	RIVER AND FORECAST POINT	PERIOD	THIS YEAR	AVERAGE	LAST YEAR*	AVERAGE
	VIGORET DE LA CONTRACTOR DE LA CONTRACTO					
0	MISSOURI RIVER		0.00	7.0%	1100	0010
0545	Toston (at) (3)	Apr-Sept	2455	105	1102	2342
00.00	T	Apr-July	2119	105	886	2030
0908	Fort Benton (at) (5)	Apr-Sept	3686	100		3599
7.000	77° 77 / 4 / //	Apr-July	3095	100		3076
1095	Virgelle (at) (6)	Apr-Sept	4362	99 98		4393 3803
1150	7t () (6)	Apr-July	3720	98 98		4806
1150	Zortman (near) (6)	Apr-Sept	4710	98 98		4143
1320	Fort Peck Dam (below)(7)	Apr-July	4085 4658	98 98		4761
1320	fort Peck Dam (Delow)(/)	Apr-Sept Apr-July	4098	98		4181
1770	Wolf Point (near) (7)	Apr-Sept	5085	97 97		5261
1770	woll Foint (hear) (/)	Apr-Sept	4478	97		4652
3300	Williston, N.D. (near)(8)	Apr-Sept	12712	102	4475	12562
2200	williston, N.D. (near)(0)	Apr-July	11172	101	3715	11101
	PRICKLY PEAR CREEK	Mpr -oury	111/~	101	2112	11101
0615	Clancy (near)	Apr-Sept	19.9	83	9.7	23.9
001)	orancy (near)	Apr-July	17.5	84	8.4	20.8
	NORTH FORK SUN RIVER	npr our	21.07	<b></b>		
0785	Augusta (near)	Apr-Sept	225	94		239
-, -,		Apr-July	203	92		222
	SUN RIVER					
0786	Gibson Dam (at) (10)	Apr-Sept	557	95	474	588
		Apr-July	510	95	440	538
	MARIAS RIVER	•				
0995	Shelby (near)	Apr-Sept	585	89	390	659
		Apr-July	557	89	368	605
	SOUTH FORK MUSSELSHELL RIVER					
1185	Martinsdale (above)	Apr-Sept	57.0	106	10.7	53.6
		Apr-July	54.7	106	10.3	51.4
	MUSSELSHELL RIVER					
1205	Harlowton (at) (9)	Apr-Sept	85.5	103	***	83.0
		Apr-July	84.5	103		82.0

(5) Corrected for storage in Canyon Ferry Reservoir.

(6) Corrected for storage in Canyon Ferry and Tiber Reservoirs.

(9) Corrected for storage in Durand and Martinsdale Reservoirs.

<sup>(3)</sup> Corrected for storage in Hebgen and Ennis Lakes.

<sup>(7)</sup> Corrected for storage in Canyon Ferry, Tiber and Fort Peck Reservoirs.(8) Corrected for storage in Canyon Ferry, Tiber, Fort Peck, Buffalo Bill and Boysen Reservoirs.

<sup>(10)</sup> Corrected for storage in Gibson Reservoir and diversions.



**AS OF** APRIL 1, 1962

					(1000	Acre Feet)
		FORECAST	FORECAST	PERCENT	MEASURE	D FLOW
NO.	RIVER AND FORECAST POINT	PERIOD	THIS YEAR	AVERAGE	LAST YEAR*	AVERAGE
	YELLOWSTONE RIVER					
1915	Corwin Springs (at)	Apr-Sept	2236	113	1358	1980
2004		Apr-July	1851	112	1129	1649
1925	Livingston (at)	Apr-Sept	2525	112	1440	2252
27.75	D°77° / 1)	Apr-July	2075	111	1186	1863
2145	Billings (at)	Apr-Sept	4730	111	2380	4261
2000	\\\^3\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	Apr-July	4050	111	1957	3657
3090	Miles City (at) (12)	Apr-Sept	7125	106	3097	6721
2205	Cf 3 ( +) (20)	Apr-July	6215	106	2571	5883
3295	Sidney (at) (12)	Apr-Sept	7202	105	2873	6921
	SHIELDS RIVER	Apr-July	6400	104	2447	6137
1935	Clyde Park (at)	A Co-+	7.22	110	26 7	777
エッフフ	Oryce Park (at)	Apr-Sept	132 122	119	36.1	111
	ROSEBUD CREEK	Apr-July	IZZ	119	34.3	103
2045		A C- +	20.7	770	7./	0/5
2045	Absarokee (near) (11)	Apr-Sept	294	110	146	267
	STILLWATER RIVER	Apr-July	235	110	106	216
2050	Absarokee (near) (11)	Ann Cont	684	110	255	620
2070	Absarokee (Hear) (II)	Apr-Sept Apr-July	575	110	355 281	
	CLARKS FORK RIVER	Apr - Jury	272	110	201	523
2075	Chance (at)	Apr-Sept	600	98	442	617
	ondinos (do)	Apr-July	543	98	396	552
2085	Edgar (at)	Apr-Sept	628	97	449	652
		Apr-July	561	97	378	575
	ROCK CREEK	mpr our	702	<b>,</b> ,	510	212
2095	Red Lodge (near)	Apr-Sept	133	118	77.6	112
	, , ,	Apr-July	102	118	58.0	86.3
2250	BULL LAKE CREEK				, , , ,	
	Lenore (near) (14)	Apr-Sept	192	113	-	170
2320	NORTH POPO AGIE RIVER					
	Milford (near)	Apr-Sept	92	124	57	74
2330	LITTLE POPO AGIE RIVER					•
	Lander (near)	Apr-Sept	56	137	-	43
2185	WIND RIVER					
0.465	Dubois (at)	Apr-Sept	106	106	enq.	100
2820	SHOSHONE RIVER					
	Buffalo Bill Dam (below)(13)	Apr-Sept	850	100	-	851

<sup>(11)</sup> Corrected for storage in Mystic Lake.

(12) Corrected for storage in Buffalo Bill and Boysen Reservoirs.

(14) Corrected for storage in Bull Lake Reservoir.

<sup>(13)</sup> Corrected for storage in Buffalo Bill Reservoir and Heart Mountain diversion.

<sup>-8-</sup>

<sup>\*</sup>PROVISIONAL DATA FURNISHED BY U.S. GEOLOGICAL SURVEY



		AS OF API	RIL 1, 1	962			(Inches)
		(		CURRENT DATA		PAST F	RECORD
	SNOW COURSE		DATE	SNOW DEPTH	WATER	WATER	CONTENT
ио.	NAME	ELEVATION	SURVEY	32	CONTENT	LAST YEAR	AVERAGE
		COLUMBIA	RIVER B	ASIN			
Kootenai	River						
15B11 14A4 Can 10 Can 12A Can 43 Can 33 Can 20B Can 32 Can 10A 15A1 Can 8A Can 20A Can 41 14A7	Baree Creek Brush Creek Fernie Field Gray Creek Kicking Horse Kimberley Marble Canyon New Fernie Red Mountain Sinclair Pass Sullivan Mine Upper Elk River Weasel Divide	5500 5000 3500 4200 5100 5400 3800 5000 4100 6000 4500 5100 4400 5450	3/30 3/20 3/30 3/31 3/30 3/31 4/1 3/30 3/22 4/1 3/30 3/30 3/20	125 38 25 19 61 47 22 53 50 52 17 44 15 88	51.2 10.7 9.6 5.5 18.7 12.8 7.3 9.0 15.4 15.8 3.8 11.5 6.4	52.1 12.2 8.3 5.2 22.1 15.1 9.3 11.3 16.5 22.9 4.8 16.7 8.5 38.6	48.7* 15.2* 9.3 5.2 19.8* 14.9* 6.8 13.9* 15.4* 21.5 6.0 15.4* 8.3* 33.4
Flathead	River						
13B14A 14B3 13B3 13A17 13A2M 13B4 14A9 14A3 13B13A 14A6 14A5 13A5M 13A16 13B7 13A13 13B2 13A10 13B1 13A12M 13B1 13B1 13B1	Basin Creek Bassoo Peak Big Creek Camp Misery Desert Mountain Fatty Creek Griffin Creek Divide Hell Roaring Divide Holbrook Kishenehn Logan Creek Marias Pass Mineral Creek North Fork Jocko Quintonkon Spotted Bear Mountain Strawberry Lake Trinkus Lake Trout Lake Twin Creeks Upper Holland Lake	5000 5150 6750 6400 5600 5500 5150 5770 4530 3886 4300 5250 4000 6330 3800 7000 6500 6500 3600 3580 7000	3/29 3/27 3/29 3/26 3/26 3/30 4/2 4/3 3/29 3/29 3/29 3/29 3/29 3/29 3/30 3/29	38 43 127 112 57 70 43 82 37 32 36 56 50 119 48 53 106 118 43 37 102	10.7 13.6 49.2 38.7 17.0 22.8 14.4 30.0 11.4 9.4 18.1 15.2 49.3 15.6 16.2 39.2 42.2 15.6 12.0 38.0	8.8 7.9 45.2 14.1 8.9 32.6 7.0 6.1 6.2 15.6 17.2 44.4 9.9 12.6 42.0 7.0 7.0 29.4	10.5* -43.4 -16.6 -31.7 10.1* 10.8 9.8 20.3 23.9 44.4 14.8* 15.6* 42.5* 41.5* 16.4* 10.6* 34.3*



		AS OF AL	11.11.19	1702			(inches)
		(		CURRENT DATA		Y PAST	RECORD
	SNOW COURSE		DATE	SNOW DEPTH	WATER CONTENT	WATER	CONTENT
NO.	NAME	ELEVATION	SURVEY	1 32.11		LAST YEAR	AVERAGE
Clark Fo	ork River						
13C13 12B10 12B11 13B10 13C9 15C2 13C11 15B10 13C10 15C1 13C4	Black Pine Copper Creek Cotter Mine Coyote Hill El Dorado Mine Fish Lake Airstrip Fred Burr Pass Freezeout Summit Gold Creek Lake Hoodoo Creek Intergaard Lookout	7100 5700 6250 4200 7800 5000 8000 6800 7200 6200 6450 5250	3/26 4/2 4/2 3/27	44 53 56 39 66 103 82 ntinued 53 131 38 122	13.6 16.8 18.4 13.0 22.6 40.4 24.7 16.6 50.7 10.4 42.8	10.1 - 6.5 15.0 39.3 20.0 36.9 11.5 51.8 6.6 37.3	- 10.6* 22.7* 42.6* 27.0* 36.8 17.2* 53.2 7.9* 39.0*
1308 13012 1303 1302 1305 1307 1306 1301 14B1	Lubrecht Forest #6 Red Lion Skalkaho Summit Slide Rock Mountain Southern Cross Storm Lake Stuart Mill Stuart Mountain TV Mountain	4040 7000 7259 7100 6500 7780 6500 7400 6800	3/31 3/29 3/27 3/28 4/2 3/29 4/2 3/31 3/30	19 64 76 54 30 57 30 84 62	6.4 16.8 26.6 16.7 9.5 15.7 9.0 32.5 20.5	0 12.0 23.3 11.0 5.0 11.2 4.8	2.5* 18.0* 27.1 15.9 5.9* 15.6 6.9* 32.8 19.0*
Bitterro	ot River						
13016 13D1 13D2 14D3 14C5 14C7 13D16 14D2 14D1 14C6 14C4	Ambrose East Fork R. S. Gibbons Pass Kit Carson Lolo Pass Lost Horse Moose Creek Nez Perce Camp Nez Perce Pass Powell R. S. Savage Pass Twin Lakes	6475 5400 7100 4700 5230 5940 6200 5580 6575 4230 6600 6510	3/26 4/2 3/29 3/29 3/27 3/28 3/27 3/29 3/29 3/27 3/27 3/28	45 20 69 28 100 91 45 48 52 38 79 120	15.2 6.6 22.5 7.8 39.0 33.4 14.6 15.8 17.3 14.1 28.4 44.6	11.0 4.7 18.6 5.7 31.4 32.6 11.8 10.9 11.7 10.2 24.7 40.4	7.1 25.4 9.0 36.7* - 18.3 15.5 19.7 14.0* 30.3*



AS OF APRIL 1, 1962

AS OF APRIL 1, 1962									
			CURRENT DATA			PAST RECORD			
	SNOW COURSE		DATE	SHOW	WATER	WATER	CONTENT		
NO.	NAME	ELEVATION	OF SURVEY	DEPTH	CONTENT	LAST YEAR	AVERAGE		
	MISSOURI RIVER BASIN								
Beaverh	ead River								
13B10 13D9 11E11 12E3 11E12 11E4 11E3 13E1 12E2 13D11 13D12 13E2 12E1	Bloody Dick Gold Stone Blue Ledge Mine Camp Creek Kilgore Lakeview Canyon Lakeview Ridge Lemhi Pass Limekiln Selway Junction Terrell Creek Trail Creek White Pine Ridge	7600 8100 6700 6800 6200 6930 7400 7480 6950 6800 6650 7090 8850	3/28 3/28 3/30 3/28 3/30 3/27 3/27 3/22 3/21 Discont 3/22 3/21		11.3 15.2 22.5 12.1 14.8 14.3 12.2 7.4 0	9.4 10.0 14.1 6.1 9.5 9.6 7.6 6.5 0 6.9 3.2 6.2 4.2	12.1* 15.8* 17.3 10.4 10.3 11.3* 10.1* 9.6* 1.4* 9.1* 4.8* 9.1* 6.2*		
Big Hol	e River								
13D14 13D4 13D3 13D5 13D15 13D8 13D6 13D7 13D13	Anderson Meadow Below Big Hole Pass Big Hole Pass East Boundary Elk Horn Jahnke Creek Miner Forks Miner Lake Wise River	7000 6900 7240 6700 8450 7340 7300 6720 6300	3/29 3/26 3/26 3/26 3/27 3/28 3/27 3/27 3/29	29 46 50 29 40 36 44 35 20	7.0 13.2 15.8 7.8 11.0 8.4 13.1 8.6 5.2	4.5 8.7 10.4 3.8 6.4 6.7 9.4 5.9 2.7	8.4* 14.7* 17.4* 8.5* 10.7 11.7* 13.2* 9.1* 5.6*		
Jeffers	Jefferson River								
1207 1206 12D1	Berry Meadow Picnic Grounds Pipestone Pass	7300 6500 7200	3/30 4/2 3/23	35 23 29	9.0 6.0 6.9	- 2.0 4.9	5.3* 6.0		



						<u></u>	(Inches)	
SNOW COURSE			DATE	URRENT DATA	W.4.7.5.0	PAST RECORD		
NO.			OF	SNOW DEPTH	WATER CONTENT		CONTENT	
	HORE	ELEVATION	SURVEY			LAST YEAR	AVERAGE	
Madison River								
11E9 11D7 11D6 11E5 11E10 11D5 10E2 11D3 11E8 11E7	Big Springs Call Road Crockett Lake Hebgen Dam Island Park Jack Creek Norris Basin North Meadow Valley View West Yellowstone	6500 8050 8400 6550 6315 7600 7500 7500 6500 6700	3/30 3/19 3/19 3/30 3/29 3/20 3/31 3/20 3/30 3/30	69 44 45 39 62 28 42 38 58 37	25.6 13.1 13.5 11.2 20.3 7.2 12.4 10.6 19.4 11.0	19.8 - 9.7 15.0 3.6 8.7 9.5 13.4 9.3	23.6 - 12.6 17.8 - 10.3* - 16.4 12.7	
Gallati	n River							
10D4 10D3 10D1 11E6	Devil's Slide Hood Meadow New World Twenty-One Mile	8100 6600 6700 7150	3/31 3/31 3/24 3/30	80 38 40 57	25.4 11.4 9.6 17.8	17.1 7.6 9.3 14.8	21.2 9.8 10.9 19.2	
Missour	i River (Main Stem)							
1205 901 1002 1001 9A1 1201 1202 1203 1204	Chessman Reservoir Crystal Lake Grasshopper Kings Hill Rocky Boy Stemple Pass Tenmile, Lower Tenmile, Middle Tenmile, Upper	6200 6100 7000 7950 5200 6900 6250 6800 8000	3/28 3/29 3/28 3/26 4/2 3/27 3/26 3/25 3/25	25 45 28 46 14 40 29 42 47	5.0 13.4 7.2 13.5 4.4 10.2 8.0 11.0	1.2 4.7 1.6 9.1 0 6.8 4.3 7.5 9.5	5.1 11.8 5.6 13.8 5.2 11.0 7.1 11.3	
Sun-Tet	on-Marias Rivers							
12B8 12B6 12B9 12A1 12B5 12B7 12B2 12B1 12B4 12B3	Bench Mark Cabin Creek Five-Bull Freight Creek Gates Park Goat Mountain Waldron Creek West Fork Wrong Creek Wrong Ridge	5500 5400 5600 6000 5300 7000 5600 6000 5700 6800	No meas 3/29 No meas 3/22 3/29 3/31 3/22 No meas 3/29 3/29	28 urement 42 35 40 18	7.0 14.4 10.6 12.1 6.3 14.6 18.4	6.6 4.5 3.2 13.9 8.3 9.4 3.2 9.3 14.7	10.0* 7.1* 7.5* 17.4* 11.0* 12.4 7.7* 16.2* 23.1*	



		70 01 12	1, 1,0				(inches)	
		(		RENT DATA		PAST	RECORD	
	SNOW COURSE		DATE OF	SNOW DEPTH	WATER CONTENT	WATER CONTENT		
NO.	NAME	ELEVATION	SURVEY	JE1 111	CONTENT	LAST YEAR	AVERAGE	
Saskate	hewan (Bow) River							
Alb. 1	Bow River	5100	3/28	33	8.1	8.8	8.7	
Alb. 2	North Course	5400	3/28	31	7.8	9.3	8.9	
Alb. 3	Pipestone River	5100	3/28	27	7.2	7.5	6.6	
Alb. 5	Lake Louise	5800	3/27	33	9.3	11.8	11.2	
Alb. 6	Mirror Lake	6600	3/27	40	11.0	13.1	12.5	
Alb. 8	Miscl. Lake Louise	5700	3/27	42	10.4	12.2	11.1	
Alb. 9	Forty Mile Creek	5500	3/29	37	9.8	7.8	7.5	
Upper Ye	ellowstone River							
1005	Pold Pidgo	7500	2/277	/ 7	12.6	ø ,		
9D1	Bald Ridge	7500	3/27	41	12.6	8.4	7 2	
	Camp Senia	7890	3/30	49	9.3	2.7	7.3	
10E3	Canyon	7750	4/1	61	19.4	13.3	16.0	
10D7	Cooke City	7400	3/31	35	9.3	7.4	9.5	
10D5	Crevice Mountain	8400	3/30	41	12.1	5.6	10.5	
9D3	Gertrude Lake	9250	3/30	73	17.8	8.0	_	
9D5	Grizzly Peak	8400	3/29	89	23.6	8.2	-	
1006	Independence	8000	3/26	59	19.8	15.2	18.4*	
10E4	Lake Camp	7850	3/31	53	14.4	8.6	12.1*	
9E1	Lodgepole	8200	3/28	45	11.1	7.4	13.1*	
10E1	Lupine Creek	7300	4/1	46	12.6	8.9	11.6*	
10D12	Monument Peak	9000	3/26	78	27.6	21.2	-	
1003	Porcupine	6500	3/27	31	7.8	4.8	7.1	
10D10	Sacajawea	6550	3/23	44	13.2	10.0	_	
10E7	Thumb Divide	7900	4/1	82	29.0	16.1	25.4*	
9D4.	Timberline Creek	8850	3/30	77	18.8	9.2	-	
9D2	West Rosebud	7500	No report			0	-	
Wind Riv	ver							
9F12	Big Warm	8800	3/28	44	12.0	5.8	10.1*	
9F4	Burroughs Creek	8800	3/30	51	15.6	8.8	16.9*	
9F10	Dinwoodie	10000	3/31	52	13.5	8.6	13.2*	
9F17A	Dinwoodie Glaciers	10500	3/30	58	16.0E	8.5E	- ~ ·	
9F9	Dry Creek	9500	3/31	34	8.4	5.5	7.1*	
9F6	Du Noir	8750	3/28	43	11.3	3.4	10.1	
9F7	Geyser Creek	8500	3/29	35	9.1	4.0	9.4*	
9F8	•		3/29 3/29	69	21.5	12.5	18.3*	
	Little Warm	9500	3/29 3/28		_	3.9		
9F14	Sheridan R. S. #2	7500		33 26	8.4		9.4*	
9F3	T-Cross Ranch	8000	3/30	26 80	6.0	4.0	8.1	
10F9M	Togwotee Pass	9600	3/31	89	33.4	24.0	32.1	



		AS OF AL					(Inches)
				CURRENT DATA		PAST R	ECORD
	SNOW COURSE	<del></del>	DATE OF	SNOW DEPTH	WATER CONTENT	WATER C	ONTENT
110.	NAME	ELEVATION	SURVEY			LAST YEAR	AVERAGE
Popo Ag	<u>ie River</u>						
8G2	Blue Ridge	9500	3/24	56	13.9	7.9	13.7
8G5	Bruce's Camp	6500	3/24	6	2.2	4.4	5.5*
9G3	Hobbs Park	10000	4/2	64	20.5	15.1	20.1*
9G4	Mosquito Park	9500	4/2	38	9.2	6.8	9.1*
8G1	Sawmill Glade	8500	3/24	43	10.2	7.1	8.6
8G3M	South Pass	9000	3/24	59	16.9	8.7	16.4
9F11	St. Lawrence R. S.	9000	4/1	37	9.7	5.6	7.8*
9G2	Trout Creek	8400	4/2	27	7.5	7.6	6.7*
9G7A	Twenty Lakes	10500	3/30	49	12.5E	-	-
Big Horn	n River						
7E31	Five-Springs Falls	7500	3/30	23	6.0	5.4	5.7*
9F19A	Kirwin	11000	•	delayed	0.0	5.5E	J• /*
8E30	Medicine Wheel	9000	3/25	•	16.1	14.3	15.7*
8Fl	Owl Creek	8700	3/31	52 31	7.9	7.6	7.3*
9E3	Timber Creek	8800	3/30			3.7	4.8*
9F15	Wood River #2	8000	3/30	24 34	5.6 8.5	6.6	5.6*
フェエン	WOOD RIVER #2	8000	5/ 50	54	0.7	0.0	5.04
Shoshone	e <u>River</u>						
9E4M	Carter Mountain	7800	3/29	32	8.2	5.3	4.8*
10E6	East Entrance	7000	3/31	35	9.7	6.8	11.9*
10E5	Sylvan Pass	7100	3/30	45	10.9	11.2	15.9
9F18A	Younts Peak	8500	•	delayed	,	10. E	-
Nowood (	Creek		_	-			
emo e		droo	0 /07	0.0	~ 0	/ ~	<b>~</b> • • •
7E25	Cold Springs Camp	8700	3/27	33	7.0	6.5	7.3*
7E24M	Medicine Lodge Lakes	9500	3/27	48	11.8	10.4	11.3*
7E27M	Onion Gulch	8100	4/1	51 ~ (	13.5	7.2	8.7*
7E26	West Tensleep Lake	9075	3/26	56	15.3	9.9	11.1*
7E35	Tyrell R. S.	8300	3/26	40	10.2	8.1	7.5*
Shell C	reek						
7E21M	Bald Mountain	9600	3/24	74	24.7	18.8	19.8*
7E17	Granite Pass	8950	3/26	61	19.0	12.2	15.7*
7E4	Ranger Creek	8800	3/28	44	10.9	7.8	9.1*
7E23	Shell Creek	9600	3/28	66	17.2	11.9	14.3*
			-,		_ • • •		, , ,



AS OF APRIL 1, 1962

(Inches)

				CURRENT DATA		PAST R	ECORD
SNOW COURSE			DATE	SNOW	WATER	WATER CONTENT	
NO.	NAME	ELEVATION	SURVEY	DEFIN	CONTENT	LAST YEAR	AVERAGE
Tongue 1	River						
7E20 7E32M 7E18A 7E33 7E34A 7E14 7E11 7E10 7E12A	Beaver-Tongue Big Goose #2 Bone Springs Divide Burgess R. S. #2 Dome Lake #2 Gloom Creek Sibley Lake Steam Boat Point Sucker Creek	9200 7700 9200 7900 8800 9300 8000 7500 9000	3/24 3/30 3/26 3/25 3/29 3/27 3/28 3/28 3/27	70 43 66 30 53 51 47 39	22.1 10.8 20.7 7.9 13.5 16.3 11.0 9.3	16.8 7.6 13.4 6.4 9.1 12.2 9.3 7.3 11.2	18.4* 7.6* 16.2* 7.6* 8.6* 13.1* 9.7* 7.7* 11.9*
7E13 Wood Rock G. S. 8500 3/26 43 12.9 8.5 10.2  Powder River						10.4*	
7F1 7F2 7E36A 6E2 7E8 7E5 7E6	Bear Trap Canyon Creek Clouds Peak Muddy Creek G. S. Munkres Pass Soldier Park Sour Dough	8000 7400 10000 7800 9700 8700 8500	4/2 4/3 3/30 4/1 4/1 3/31 3/31	46 52 62 19 47 31 37	11.8 14.0 19.0E 5.2 13.7 7.4 10.0	6.8 12.3 12.0E 4.4 7.5 5.4 6.8	- - 4.2* 9.3* 5.5* 7.3



#### RESERVOIR STORAGE as of March 31, 1962

BASIN	RESERVOIR	USEABLE CAPACITY	USEABLE : 1962	STORAGE - 1 1961	000 A.F. 1943-57 Average				
MISSOURI RIVER BASIN - WYOMING									
Wind  Owl Creek Shoshone Belle Fourche	Bull Lake Pilot Butte Boysen Anchor Buffalo Bill Key Hole	152.0 31.6 560.0AC 16.5 440.0 190.0AC	78.0 23.7 137.9 0.1 127.9 9.5	58.3 24.7 106.3 0.0 135.2 2.7	60.1 18.2 199.5** - 220.6 10.3**				
MISSOURI RIVER	BASIN - NORTH DAKO	<u>TA</u>							
Missouri Heart James	Garrison E.A. Patterson Lake Tschida Jamestown	18,100.0AC 5.6AC 68.7AC 20.0AC	3,639.7 3.0 39.3 13.0	4,741.9 4.1 49.7 15.9	5.6** 68.2**				
MISSOURI RIVER	BASIN - SOUTH DAKO	<u>TA</u>							
Missouri Grand Cheyenne	Oahe Fort Randall Gavins Point Shadehill Angostura Deerfield	17,000.0AC 3,800.0AC 320.0AC 84.0AC 90.0AC 15.1AC	5,419.0T 2,544.0 338.0 35.0 18.2 4.1	2,726.0T 2,607.0 259.1 51.3 6.5 2.8	2,283.3** - 81.8** 46.7** 12.0**				
Belle Fourche	Pactola Belle Fourche	55.0AC 185.2AC	3.9 58.2	16.4 37.6	116.9				

<sup>\*\*</sup> Average for period of record.
AC Active Capacity, USBR, Billings.
T Total storage.



#### RESERVOIR STORAGE as of March 31, 1962

BASIN	RESERVOIR	USEABLE CAPACITY	USEABLE 1962	STORAGE - 1961	1000 A.F. 1943-57 Average				
COLUMBIA RIVER BASIN - MONTANA									
Flathead Clark Fork Bitterroot	Hungry Horse Flathead Lake Camas 1/ Mission Valley 2/ Georgetown Lake Como Lake	3,428.0 1,791.0 45.2 100.3 31.0 34.8	2,200.0 598.3 29.9 26.9 20.9 15.6	1,043.0 27.2	2,177.0** 628.8 26.5 38.6 21.6 12.4				
	R BASIN - MONTANA	54.0							
		4.0	2~ 4	20.7	22.0				
Beaverhead Ruby Madison	Lima Ruby Hebgen Lake Ennis Lake	84.0 38.8 345.0 41.0	17.8 28.7 110.8 39.1	13.1 27.1 152.1 37.9	33.9 26.5** 208.3 35.3				
Gallatin Missouri	Middle Creek Canyon Ferry Hauser & Helena	8.0 2,043.0 61.9	2.7 1,217.0 58.4	3.8 1,506.0 55.1	4.1** 1,585.0** 44.3				
	Lake Helena Holter Lake Ackley Lake	10.4 81.9 5.8	9.2 81.0	11.3	5.5** 54.3 4.2				
	Durand Martinsdale Fort Peck	7.0 23.1 19,410.0	1.9 2.1 8,143.0	4.3 4.0 11,180.0	5.3 10.2 11,606.0				
Sun-Teton	Gibson Willow Creek Pishkun	105.0 32.3 32.0	41.0 11.0 16.7	38.6 19.9 16.7	66.4 20.2 18.6				
Marias	Lower Two Medicine Four Horns Tiber Swift	16.6 19.2 1,316.0 30.0	625.4 18.3	0 14.6 644.9 15.8	0 8.7 653.8** 24.7				
Milk	Lake Francis Fresno Nelson	112.0 127.2 66.8	78.2 37.8 15.4	78.6 34.1 39.6	96.0 85.6 33.7				
Yellowstone	Lake Sherburne Mystic Lake Tongue River Cooney	66.1 20.8 68.0 27.5	20.0 4.4 47.3 15.2	22.1 5.1 21.6	22.7 5.7 18.1 12.7				

<sup>1/</sup> Sum of four small reservoirs on west side of Flathead Lake.
2/ Sum of eight small reservoirs in Mission Valley not including Jocko Lake.
\*\* Average for period of record.



## Agencies Cooperating in Collecting Data Contained in this Bulletin

- U. S. Forest Service Region I, Missoula, Montana
- U. S. Geological Survey Helena, Montana
- U. S. Army Corps of Engineers Portland, Oregon Seattle, Washington Omaha, Nebraska Riverdale, N. D.
- U. S. Indian Irrigation Service St. Ignatius, Montana
- U. S. Weather Bureau Helena, Montana
- U. S. Fish & Wildlife Service Red Rock Lakes Refuge Monida, Montana
- U. S. Bureau of Reclamation Billings, Montana Boise, Idaho
- Montana Power Company Butte, Montana
- Agricultural Experiment Station North Montana Branch Station Havre, Montana
- Montana State Highway Dept. East Glacier, Montana

- National Park Service Yellowstone National Park Glacier National Park
- Montana Experiment Station Montana State College Bozeman, Montana
- Bonneville Power Administration Portland, Oregon
- Montana State School of Forestry Montana State University Missoula, Montana
- Soil Conservation Service Montana, Wyoming, Idaho
- Soil Conservation Districts Montana Counties
- Johnson Flying Service, Inc. Missoula, Montana
- Water Rights Branch
  Dept. of Lands & Forests
  Victoria, British Columbia
- Department of Northern Affairs & National Resources Calgary, Alberta

## First Class Mail

Federal - State - Private
COOPERATIVE SNOW SURVEYS

Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"The Conservation of Water begins with the Snow Survey"